



PROPOSED RULE MAKING

CR-102 (June 2012)

(Implements RCW 34.05.320)

Do NOT use for expedited rule making

Agency: State Building Code Council

<input checked="" type="checkbox"/> Preproposal Statement of Inquiry was filed as WSR 12-03-111 ; or	<input checked="" type="checkbox"/> Original Notice
<input type="checkbox"/> Expedited Rule Making--Proposed notice was filed as WSR _____ ; or	<input type="checkbox"/> Supplemental Notice to WSR _____
<input type="checkbox"/> Proposal is exempt under RCW 34.05.310(4) or 34.05.330(1).	<input type="checkbox"/> Continuance of WSR _____

Title of rule and other identifying information: (Describe Subject)
Adoption and amendment of the 2012 International Energy Conservation Code (Commercial), WAC 51-11C

Hearing location(s):
 September 14, 2012 September 21, 2012
Center Place Event Center **DES Presentation Room**
 2426 N. Discovery Place 1500 Jefferson SE
 Spokane Valley, WA 99216 Olympia, WA 98504

Submit written comments to:
 Name: Ray Allshouse, Chair, State Bldg Code Council
 Address: PO Box 41449
 Olympia, WA 98504-1449
 e-mail sbcc@ga.wa.gov
 fax (360) 586-9088 by (date) Sept. 21, 2012

Date: Sept. 14 / Sept 21 Time: 10 a.m

Assistance for persons with disabilities: Contact
Peggy Bryden by Sept 7, 2012
 TTY () _____ or (360) 407-9280

Date of intended adoption: November 9, 2012
(Note: This is NOT the effective date)

Purpose of the proposal and its anticipated effects, including any changes in existing rules:
 The proposed rules adopt the 2012 edition of the International Energy Conservation Code with amendments to incorporate requirements from the 2009 Washington State Energy Code, increase clarity, and increase energy efficiency as required in RCW 19.27A.160. As part of this adoption, the energy code is recodified as two separate WACs: WAC 51-11R for residential requirements and WAC 51-11C for commercial requirements. Please see Attachment A for a further summary of proposed changes as compared to the 2009 Washington State Energy Code.

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|---|--|
| General layout of 2012 IECC: | |
| Chapter 1: Scope, Admin and Enforcement | C404 – Service Water Heating |
| Chapter 2: Definitions | C405 – Electrical Power & Lighting |
| Chapter 3: General requirements | C406 – Additional Energy Efficiency Requirements |
| C301 – Climate Zones | C407 – Total Building Performance |
| C302 – Design Conditions | C408 – System Commissioning |
| C303 – Materials, Systems & Equip | C409 – Energy Metering and Energy Consumption Mgmt |
| Chapter 4: Residential Energy Efficiency | Chapter 5: Reference Standards |
| C401 – General Requirements | Appendix A: Default Heat Loss Coefficients (WSEC Ch. 10) |
| C402 – Building Envelope Requirements | Appendix B: Default Internal Loads & Schedules (WSEC RS 29) |
| C403 – Building Mechanical Systems | Appendix C: Exterior Design Conditions |

Reasons supporting proposal: RCW 19.27A.020, 19.27A.160

Statutory authority for adoption: RCW 19.27A.020, 19.27A.025, 19.27A.045, 19.27A.160	Statute being implemented: RCW 19.27, 19.27A and 34.05
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Is rule necessary because of a:

Federal Law?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Federal Court Decision?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
State Court Decision?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

If yes, CITATION:

DATE
July 31, 2012

NAME (type or print)
Ray Allshouse

SIGNATURE

TITLE
Council Chair

CODE REVISER USE ONLY

OFFICE OF THE CODE REVISER
STATE OF WASHINGTON
FILED

DATE: July 31, 2012

TIME: 3:36 PM

WSR 12-16-088

Agency comments or recommendations, if any, as to statutory language, implementation, enforcement, and fiscal matters:

The Council is seeking comments on the issues proposed in the attached rules.

Name of proponent: (person or organization) Washington State Building Code Council

- Private
 Public
 Governmental

Name of agency personnel responsible for:

Name	Office Location	Phone
Drafting..... Krista Braaksma	1500 Jefferson SE, PO Box 41449, Olympia WA	(360) 407-9278
Implementation.... Krista Braaksma	1500 Jefferson SE, PO Box 41449, Olympia WA	(360) 407-9278
Enforcement.....		()

Has a small business economic impact statement been prepared under chapter 19.85 RCW or has a school district fiscal impact statement been prepared under section 1, chapter 210, Laws of 2012?

Yes. Attach copy of small business economic impact statement or school district fiscal impact statement.

A copy of the statement may be obtained by contacting:

Name: Tim Nogler, Washington State Building Code Council

Address: PO Box 41449

Olympia, WA 98504-1449

phone (360) 407-9280

fax (360) 586-9088

e-mail sbcc@ga.wa.gov

No. Explain why no statement was prepared.

Is a cost-benefit analysis required under RCW 34.05.328?

Yes A preliminary cost-benefit analysis may be obtained by contacting:

Name:

Address:

phone () _____

fax () _____

e-mail _____

No: Please explain: The State Building Code Council is not one of the agencies identified as required to prepare an analysis. However, the Council intends to prepare an analysis prior to the final adoption of these rules and a copy can be requested using the same information as provided for the small business economic impact statement.

Attachment A: Summary of Proposed Changes

- 1. Change of Scope.** With the adoption of the 2012 International Energy Conservation Code (IECC), the definition of “Commercial” has changed. WAC 51-11C now applies to all buildings other than detached one- and two-family dwellings, townhouses AND Group R-2 and R-3 buildings three stories or less.
- 2. Climate Zones.** The climate zones in the Energy Code have changed to reflect those of the IECC. Washington State is now comprised of three climate zones: Climate Zone 4 Marine, Climate Zone 5, and Climate Zone 6. For the residential code, Climate Zones 4 Marine and 5 share the same requirements. See Table R301.1 for a county by county breakdown of climate zones.
- 3. Existing Buildings (C101.4.4).** The IECC requires that when a building changes use or occupancy type to one that uses more energy, the building must comply with the whole code. If that change involves a change in the lighting power density category, the lighting must comply with the new LPD.
- 4. Envelope Requirements.** Two options are provided for the prescriptive envelope and assembly tables (C402.1.2, C402.2). The first includes the unamended IECC requirements for mass walls (U-0.078); the second includes a median value (U-0.104) between the current WSEC mass wall requirement (U-0.32) and the IECC requirement in climate zone 5/Marine 4 as well as clarification on where it may be used. The remaining values are the same in both options. Due to the shift in climate zones, some values were increased from requirements in WSEC CZ 1 and decreased in some of WSEC CZ2 (see walls, metal building, steel-frame and wood frame). Footnote f was added to Table C402.2, providing guidance on clips or other attachments for insulation not considered continuous.
- 5. Glazing.** The U-factor for nonmetal windows was reduced to 0.30 and for metal windows to 0.38 (Table C402.3). The prescriptive glazing limit is reduced from 40% to 30% (C402.3.1). Skylights are required in spaces over 10,000 sq. ft. with 15 ft. ceiling height (C402.3.1)—climate zone 6 is exempt from this requirement. Skylights in most commercial occupancies are required to have a glazing material or diffuser with a measured haze factor greater than 90% (C402.3.2.2).
- 6. Air Leakage Requirements.** The IECC requires a continuous air barrier throughout all buildings, not just those over 5 stories (C402.4.1). Three options are provided for showing compliance: using approved, tested materials listed in C402.4.1.2.1; using approved, tested assemblies listed in C402.4.1.2.2; or performing a building test under ASTM E 779 or equivalent method. Motorized dampers must have a maximum leakage rate of 4 CFM/sq. ft. (C402.4.5.2). Vestibules are required at most entrance doors (C402.4.7), unless under four stories and less than 10,000 sq. ft. Requirements for sealing medium pressure duct system was added (C403.2.7.3.2).
- 7. Refrigerated Warehouses.** The proposed amendment to the IECC includes requirements for all refrigerated warehouses (C402.6) to meet the federal standards. (Federal standards currently apply only to buildings under 3,000 sq. ft.)
- 8. Mechanical Requirements.** The definition of a simple system has changed; now a single zone controlled by a single thermostat (C403.3). All other systems must follow complex system path (C403.4). Several exceptions have been removed from the economizer requirements (WSEC exceptions 1, 3 and 4) for complex systems (C403.4.1). An exception is added for simple systems for VRF air source heat pumps (C403.3.1).

Hydronic heat pumps are required to have controls to limit reheating and recooling of hydronic fluid (C403.4.3). The heat exchanger is also required to isolate the cooling tower (C403.4.3.3).

Packaged terminal heat pumps less than 2 tons are exempt from the requirement for microprocessor controls (C403.2.4.1).

The exception has been removed that allowed certain health care occupancies to use constant volume systems (C403.4.5). Large single-zone fan systems are required to use variable speed drives (C403.2.12.2).

Requirements for fan power limitation are included in the IECC (C403.2.10.1).

Garage ventilation systems now include requirements for NO2 detectors (C403.2.5.3).

An exception for multifamily residential was added to the energy recovery ventilation requirements (C403.2.6), along with systems with less than 70% outdoor air.

Motors under 1 hp are now required to be ECM in most cases (C403.2.10).

Equipment efficiencies were updated to latest standards (Tables C403.2.3(1) through (8)).

The IECC carries requirements for snow melt systems (C403.2.4.5).

9. **Service Water.** Pool heaters are required to be equipped with time switches (C404.10.2). Minimum pipe insulation requirements are now 1 inch.
10. **Lighting Requirements.** Parking garages now require daylighting controls (See definition of daylight zone and C405.2.2.3). Controls are required to allow for 50% lighting reduction in spaces without daylight or occupant controls (C405.2.1.2). Occupancy sensors are specified for more areas, including restrooms and janitor closets (C405.2.2.2). Controls are required to automatically shut off emergency lighting when space is unoccupied (C405.2.3). LPA is reduced to match ASHRAE 90.1 and includes both building area and space by space tables (C405.5.2).
11. **Escalators and Moving Walks.** Requirements for variable speed function and regenerative drives are included (C405.10).
12. **Additional Energy Efficiency Requirements.** Section C406 contains options for additional efficiency requirements all buildings must meet. There are four options in the amended version of the IECC: efficient HVAC system; enhanced lighting controls; site generated renewable energy; and efficient building envelope.
13. **Total Building Performance.** (C407) The amended version of the IECC is less stringent than the model code in that the requirement for total building performance is 90% of the baseline building energy use rather than 85%.
14. **Commissioning.** HVAC commissioning is required for all complex systems and any simple system with an economizer or a building total mechanical equipment capacity over 480,000 Btu/h cooling capacity and 600,000 Btu/h heating capacity (C408.2). All lighting systems require functional testing (C408.3). Service water heating commissioning is required for buildings with a system capacity over 200,000 Btu/h (C408.4). All metering systems require commissioning (C408.5).
15. **Energy Metering.** Metering requirements [energy source meters (C409.2) and submeters for HVAC systems and water heating (C409.3)] are added for buildings over 20,000 square feet.

To review a copy of the Commercial IECC with all changes to the model code marked, see <https://fortress.wa.gov/ga/apps/SBCC/File.ashx?cid=2259>. Changes to incorporate 2009 WSEC provisions are shown in black strikethrough/underline formatting, while changes from code change proposals received are shown in track changes mode.